MEETING HIGHLIGHTS
Hanford Site Technology Coordination Group
Management Council

EESB Snoqualmie Room
Wednesday, June 18, 1997
8:30 a.m. - 12:30 p.m.

Purpose

- To follow up on the barriers to industry involvement identified by the vendor panel last year
- To learn about industry involvement in the C-Reactor technology demonstrations

Outcomes

- Assessment of whether strategies to overcome the barriers are working
- Understanding of successful industry involvement efforts and how to apply the lessons learned

Agenda Items

- Introduction/Safety/Continuous Performance Improvement
- Updates
  -- Technology Update
  -- EMSP Results
  -- Technology Needs Process Calendar
  -- Vendor Contacts
  -- ITRC/RCI
- TDI Results and STCG Involvement in TDI Deployment Plans
- Set Agenda for July Meeting
- Follow Up on Vendor Panel -- Status of Barriers
- C-Reactor Successes and Lessons Learned
- Wrap-Up

Action Items

- Send comments on Communications Plan to Gary Ballew (everyone).
- Include details of vendor contact presentation in minutes (facilitation team).
- Bring list of ITRC documents and some copies for the next Management Council meeting (Nancy Uziemblo).
- Document possible solutions to the identified barriers (C-Reactor team).
- Convey lessons learned on C-Reactor Interim Safe Storage Project to Site-wide Systems Engineering Group (C-Reactor team).
- Include both ERC and PHMC on presentations that apply to both (facilitation team).
- Determine how high-priority technology needs can be met without Focus Area funding (Subgroups).

HANFORD SITE TECHNOLOGY COORDINATION GROUP
MANAGEMENT COUNCIL MEETING MINUTES

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INTRODUCTION/SAFETY/CONTINUOUS PERFORMANCE IMPROVEMENT

Introduction/Opening Remarks

Debbie Trader opened the meeting and made the following brief announcements:

- During the time of this meeting, Al Alm was visiting with representatives of the Yakama Indian Nation.
- The draft Ten-Year Plan (now called The 2006 Plan) is out for review and comment.
- The Ad Hoc Committee to review Subgroup roles and responsibilities has not been able to meet yet due to scheduling conflicts.
- DOE-RL has a copy of the House Oversight Committee hearing on EM-50 (the Bliley hearing).
- Al Alm is sending a letter to each site on technology deployment covering the following 10 management actions that will be implemented:

    1. Development of performance expectations for all DOE senior managers to deploy alternative and more effective technologies.
    2. Establishment of an internal Technology Acceleration Committee (TAC) to foster aggressive deployment of alternative and more effective technologies.
    3. Development of site-specific deployment plans for near-term technology deployments.
    4. Development of performance metrics to measure how well we are doing in deploying alternative and more effective technologies.
    5. Development of a standardized cost savings analysis methodology and data collection process.
    6. Use of better information collection and dissemination tools.
    7. Establishment of a Review Committee to review the entire EM technology deployment effort, including the TDI, to be chaired by Dr. Ed Berkey.
    8. Development of management reforms by October 1, 1997 to correct deficiencies in the EM Science Program (EMSP).
    9. Review of all FY 1998 OST technology development projects for relevance, technical merit, and cost-effectiveness to ensure a justifiable future program.
    10. Evaluation of the quality of the TDI proposals that were received.

Safety

Kim Koegler referred to an article in Safely Speaking called "Knowing Your Job Means Knowing Safety". It says to stay within your knowledge base; don't overextend or you may get into trouble. Ask for training to better accomplish your job.

CPI

Tom Anderson suggested that the participants think about Safety and CPI topics in advance and come prepared with several ideas to share. It might help to reflect on how you did something in the past and how you can do it better next time.

Shannon Saget reviewed the purpose and expected outcomes of the meeting listed below and provided an overview of the agenda. She then introduced the presentations under the Updates section of the agenda.

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UPDATES

Technology Update

Terry Walton discussed how the PHMC plans to convey to the Subgroups and the Management Council technology deployment success stories. They will prepare one-page fact sheets to highlight significant achievements (e.g., what was done, what was the baseline that was replaced, benefits of the new technology, points of contact, vendor successes). They hope to have a 3-ring binder full of these fact sheets by the end of the year, and the Management Council will be receiving them on a regular basis. BHI has been doing this for some time.

A presentation was given by Greg Berlin on the Mobile X-Ray System for Examination of LLW Burial Boxes, which allows non-intrusive inspection of boxes. It was noted that this system is very similar to the technology that is available in the WRAP facility. Greg also presented the Passive Aerosol Generation System, which is being used to fix contamination in tank farm valve pits. He believes that there are many applications for this technology besides tank farms. Technology Deployment Fact Sheets are available on both technologies.

It was stated that the fact sheets are well done and are very important to the Site. Continuation of these Technology Update presentations was encouraged.

EMSP Results

John LaFemina reported that the EMSP review is not yet complete. The Office of Energy Research reviewed 562 EMSP proposals for quality science; they screened out 420 and forwarded 142 to the EM reviewers for their relevance screening. (Theresa Aldridge and Dave Biancosino are on this review committee from Hanford). Decisions are expected in mid-July, with an announcement of the winners by the end of July.

The budget for EMSP looks stable; the House and Senate Defense Committees want to cut the OST program by up to 30%. However, EMSP got a $5M increase to $55M next year. There seems to be strong Congressional support for it.

The Hanford Science and Technology (S&T) Needs document has been published. HQ and ID (the administrative lead for the EMSP) have used this document to do a preliminary crosswalk between projects funded last year and actual site technology needs. The assessment relates the funded program to fulfilling site needs. The Hanford needs were used in the FY 1998 funding decisions. Hanford's document was praised because it enjoys regulator, stakeholder, and Tribal buy-in. The Hanford Site and the STCG should feel good about that.

The EMSP is trying to become more closely linked to the Focus Areas to help them get through the maturation cycle into the technology deployment phase. The effort of the STCG to dive into this area has paid off. It has produced a set of S&T needs recognized within the DOE system as the model for how to do this.

Technology Needs Process Calendar

Wayne Green stated that the PHMC plans to provide each of the Subgroups with a FY 1998 technology needs document by August 31, 1997. The Subgroups will use this document with other information to provide a Hanford Technology Needs document. The PHMC process is driven by the major project groups: facilities stabilization, TWRS, waste management, and spent fuels.

Someone asked why the ER Program was not included; Wayne responded that he was only addressing the PHMC's responsibilities; the ERC's responsibilities will be addressed by them. Kim Koegler will make sure that ER is highlighted in the future. Integration between the PHMC and the ERC is very important.

The technology needs process goals include:

-- ensure projects "own" all needs

-- complete PHMC requirements by September 30, 1997

-- include all key attributes to encourage positive responses from industry and the Focus Areas

The DOE-HQ call for site technology needs will be earlier this year than last year. It is expected that our 1998 technology needs will be due to the Focus Areas on October 31, 1997. We don't anticipate many changes - just adding a few fields (e.g., technology insertion points).

John LaFemina asked if this affects the science needs. Wayne stated that the PHMC hopes to serve both purposes.

Cathy Louie stated that the TFA gauges site priority by their user commitment to co-fund; this is the key ranking criterion for TFA.

Cathy then asked who has the specific action to produce the technology needs documents. Wayne stated that the Subgroups will do the needs prioritization and the PHMC has the responsibility to document the results. Roger Collis stated that we have a continuous process improvement approach which will allow vendors to respond better this year. We have a longer lead time and better capability for planning and getting ownership at the project level and making them part of the process.

Wayne presented the following schedule of activities:

- TSG Kickoff (June)
- Needs Survey (mid-June through August)
- Subgroup Review (first two weeks of September)
- Management Council Review (third week of September)

Shannon said that we need to move the Subgroup review to mid-August because we need to allow more time for the Management Council review prior to their September meeting. Roger Collis agreed that we need things by August to give the STCG its due and let them bring comments back to the September meeting (for an October document).

Kim Koegler mentioned that the ER Program has an intra-site exchange with EMSL to get a better evaluation of the Subcon science needs. They need interpreters for communications between the engineers and the scientists and are working on the process now. The ER Program will have science needs documented by the end of the fiscal year.

Vendor Contacts

Norm Olson presented information on the Partnership Database Status. Three databases are maintained, as discussed below.

1) A demonstration/deployment database that contains:

- 29 demonstrations with 37 industrial partners (fully engaged database)
- 16 deployments with 18 industrial partners

2) TechLink Database - 71 letter requests for additional information were sent out, and about 50% replied. 60% of these led to meetings/discussions with visitors. 119 industrial contacts have been processed so far, as follows:

- 4 in demonstration/deployment database
- 48 to acquisition or archived
- 3 routed to BHI for review
- 1 routed to CB Ventures for review
- 63 in play

Technology Management staff also go to meetings with vendors and tell them how to do business at Hanford. The intent is to help them have a higher probability of success. They have been to Bozeman and Spokane so far.

They also have an unnamed list of companies that do not have patent protection yet, and we still want to work with them (e.g., transmutation technology by Clean Energy Technologies Inc [CETI]). Their "cover" was blown by Good Morning America last week. In a month or two, that technology may come before the Management Council if the evaluation proves favorable.

Roger Collis asked how many of the companies came through the Environmental Technology Partnership (ETP). Norm said approximately 20-25.

3) National Lab technology contacts and other databases will be added to TechLink early next year. We want to give people coming into TechLink a chance to get "hot wired" into other databases and for us to search other databases besides our own.

ITRC/RCI

Nancy Uziemblo provided an update on a recent Interstate Technology and Regulatory Cooperation (ITRC) meeting. Their focus is on permeable walls, metals in soils, in situ remediation, and site characterization issues. They are trying to develop interstate policies on technology performance. There are two products: an information-sharing report and a consensus document among states with minimum permit criteria to speed up the use of technology in multiple states wanting to use it. We need to link with ITRC activities to help Hanford increase

technology deployment. Nancy will keep the Management Council posted; she will bring a list of ITRC documents to the next meeting.

The Washington State Legislature recently passed House Bill 1792 that requires Ecology to review environmental technology certification programs of other states/federal agencies and enter into agreements to use information from these programs and to participate in technology demonstrations that support the State's needs for environmental technology. In addition, Ecology is tasked with developing a certification program for technologies for remediation of radioactive and mixed waste if all program development and operational costs are paid by the federal government or persons seeking the certification.

Jim Divine, who is working for Ecology part time, presented a brief summary of the Rapid Commercialization Initiative (RCI), sponsored by DOC, DoD, DOE, EPA Southern States Energy Board, the Western Governors' Association, and California EPA. Washington is involved with the three technologies described below. If interested, call Jim for more information on 736-5700 or cc:Mail. He also has a small task with EM-50 for Claire Sink involving the seven other RCI technologies.

The purpose of RCI is to document the performance of these technologies to expedite future deployment. The term people would like is "permitted within the State", but validation is probably what is really happening. Basically, experiments are performed, the States and other parties sign off that they saw the test performed, the test was performed in accordance with the test plan, and that the results met the criteria set forth in the test plan. Based on this validation of performance, it is hoped that the participating States, and others, will accept the data and expedite its acceptance.

- Solvated Electron Chemistry (SEC) - a treatment process currently focusing on PCBs; it is applicable to the treatment of other organic chemicals. A draft report will be available soon. Jim has talked with Jim Sloughter and Dale McKenney about using this for the sludges in the K-Basins. The SEC has an EPA permit for use nationwide. Reaction products typically are petroleum-like by-products and meet EPA criteria for release.

- Multi-Sampling Lysimeter (MSL) - a small filter-type device (lysimeter) that is installed on a cone penetrometer and pushed into the soil. Typical costs are about $2K versus $20K for the standard lysimeter which requires drilling and back-filling. It is very fast and, based on preliminary data, very responsive. A draft report is expected to be available in August.

- Waste Inspection Tomography (WIT/APNEA) - x- and gamma-ray inspection is combined with active/passive neutron assay to provide mobile three-dimensional inspection of waste drums. A draft report is expected to be available in August or September.

TDI RESULTS AND STCG INVOLVEMENT IN TDI DEPLOYMENT PLANS

The proposal selection results are not available yet. The facilitator suggested that the Subgroups work on deployment plans for the successful proposals. The Management Council would only

address any major issues that the Subgroups raise. The contractors will actually write the plans, and the Subgroups will review them. Debbie Trader stated that we expect there will be some funding for this writing effort since we have not heard otherwise yet. Consensus was reached that this process is okay. The due date for these deployment plans will likely be relaxed from the original June 30 date.

AGENDA FOR JULY MEETING

- General overview and lessons learned via TWRS/TFA interactions (Cathy Louie)
- Status on interactions between the STCG Subcon Subgroup and the Subcon Focus Area (Fred Serier)
- Brainstorming on bridging the gap between technology demonstrations and deployments
- Update/status on EMSL relationship with the STCG and current activities (Rod Quinn - 15 minutes)
- Update on EMSP results (John LaFemina)
- What will the programs do about their technology needs that are not being met (not chosen by Focus Areas to address/fund solutions)?
- Update links to the national STCG
- Good news on the TDI proposals funded.

FOLLOW UP ON VENDOR PANEL -- STATUS OF BARRIERS

Theresa Aldridge presented an overview of the status of the top three barriers identified as a result of the vendor panel at the February 1996 STCG Management Council meeting:

- Incorrect cost comparisons
- Contractor and DOE management resistance to new technology (politics)
- Procurement process

The main improvements she identified were:

- The Hanford Technology Deployment Center is part of the PHMC's Technology Management web site under "Programs and Activities" on the Hanford homepage at the following address: http://www.hanford.gov. One-stop shopping for Hanford will improve industry outreach.

- Pilots for cradle-to-grave cost approach (life-cycle costs): HTI and C-Reactor
- M&I Contractor with incentives to conduct demonstrations and deploy technologies

She also identified the following future challenges:

- Building industrial partnerships
- Innovative technology life-cycle costs versus burial cost comparison (i.e., must include full costs of ERDF disposal in cost comparisons)
- Bridging the gap from successful demonstration to deployment of that technology
- Changing Technology Push to Technology Pull (i.e., the end-user must become the champion for the technology rather than the technology developer trying to sell it).

C-REACTOR SUCCESSES AND LESSONS LEARNED

Greg Eidam and Steve Pulsford presented successes and lessons learned in conjunction with the C-Reactor Interim Safe Storage Project. First Greg described the field work that was started last summer to reduce the reactor footprint by 75%. Lots of the ancillary buildings are gone now, as is 95% of the asbestos. The water towers came down last July. The fan building came down in May. The reactor will be in safe storage for up to 75 years based on the 1993 Record of Decision (ROD). A decision will be made by December on what to do with the basins.

The objectives of the C-Reactor Interim Safe Storage Project are:

- Large-scale technology demonstrations
- Safe storage for up to 75 years
- Interim inspection limited to a five-year frequency (which will reduce maintenance costs to $20K/year)
- Remote monitoring system
- Final safe storage configuration will not preclude or significantly increase the cost of any final disposition alternatives
- Establish baseline for the seven remaining production reactors at Hanford, as well as the five at Savannah River Site (SRS). SRS is participating as part of the Integrated Contractor Team (ICT). C-Reactor is the first in the country that is going into safe storage; no one has reduced a reactor footprint yet.

Steve summarized the recommended innovative technologies to be demonstrated in this project. A total of 22 technologies will be demonstrated and/or deployed. So far, six have been demonstrated and three have been deployed.

Lessons learned include the following:

Management

- Better communication of technology demonstration results (ERC homepage, fact sheets, ICT members are obligated to get information out to their organizations)

- Technology selection based on project needs/problems (not testing for testing's sake, only for industry challenges to meet Site needs; award small contracts to those who respond with solutions; hold a bake-off to get a bigger contract; industry can look forward to 14 more reactors, which is an incentive; EM-50 is coming around to this new idea).

- Project integrated schedule for deployment if successful.

Procurement

- Firm fixed (demonstration and then deployment; put industry money where their mouth is with a fixed-price contract; ask them to provide a unit price and a cost to purchase; keep it integrated)

- Competitive subcontracts (all RFPs have been competitive; have always had more than one response so far)

- More supplier RFP response time (no idea what technology will be)

- Contract has deployment clause (demonstrate on one wall and then, if successful, go for the rest right then; set up contracts up front for the entire process)

- No exceptions to the Federal Acquisition Regulations (FARs) (this way, if they are chosen to deploy, you have not made exceptions for FARs and do not have to wait a year for them to be able to deploy)

Cost/Schedule

- Approved design, budget, and integrated schedule prior to starting field work (at some point in the game, BHI will have to say stop and no more changes)

- Integrate the innovative technologies identified and selected with the design, budget, and schedule

Barriers

- Vendor product not ready after demonstration for near-term deployment (need to be ready to deploy immediately; units must be available to sell or use)

- Abnormally high deployment start-up costs of new technologies as compared to established baseline

- External project interfaces (e.g., PNNL calibration of characterization units; HUD requires them to wait three weeks to get transformer disconnected)

- Willingness for cost, time, and training to adapt to new instrumentation on site

- Paradigm shift to replace baseline with innovative technologies.

Tom Anderson asked if the work force is resistant to new technologies and if BHI has found any strategies to be successful. Greg mentioned disposable PPEs, a training process for workers, bringing them into the decision process, and working to resolve problems with them. This strategy turns it into a worker "pull" instead of a management cost-saving "push". It proves that technology deployment is a "contact sport".

Dennis Faulk asked if BHI thought that they needed EPA Project Manager approval for any of the three technologies that have already been deployed or for others. Greg said not for the three, but some of the others will require that approval.

Nancy Uziemblo asked them to bring back solutions or proposed solutions to the deployment barriers discussed earlier to share with the group because they apply to many other sites/projects. There is a rumor that each site must have a clear, unique set of deployments. They are not allowed to use technologies that are being deployed at other sites. Greg answered that we can adapt other technologies, but cannot take credit for them. However, kudos come from EM-40 for getting the work done cheaper and/or quicker.

Greg noted that the fact sheets developed by BHI are trying to solve the problem of not knowing from site to site what the available technologies are. Often the contractors learn more from the vendors than they do from DOE.

The Corps of Engineers representative stated that they are trying to maintain consistency and continuity in cost analysis between Hanford and the CP-5 project at Argonne National Laboratory. They are using a similar approach for each.

Vince Panesko asked if they have an Internet web site. Greg answered that it's on the Hanford homepage under C-Reactor or at http://www.bhi-erc.com/.

Vince also asked why the 2006 Plan (Ten-Year Plan) shows that all the reactors will be moved to the 200 Area (Appendix D). Greg said that someone better check it. It should say that the reactors will be put into 75-year standby based on the Record of Decision.

Roger asked if the C-Reactor team has shared lessons learned with the HTI team. Shannon responded that she has been sharing with Jim Hanson. Also, Vince Fitzpatrick, who used to work with C-Reactor, now works on HTI.

Roger asked if they had to start over again, how would they do it. Steve responded that they would have an integrated schedule and funding up front. Getting EM-50 funding is always a problem.

Roger asked about the effectiveness of the Integrated Contractor Team. Greg stated that the IC Team is not a barrier; it brings an element of freshness, especially because some are from Europe, and some brought in new technologies.

Roger asked which technology from CP-5 was used here. Greg answered that it was the floor monitoring technology, which can also be used for walls.

Roger asked about the gamma camera results. Steve stated that they did not deploy it. They thought there were higher radiation levels in the basin than there were. The gamma camera is meant for higher levels. Roger then asked if it would be useful in canyons, and Greg said possibly.

Cathy Louie noted that there is a site-wide systems engineering mechanism to capture lessons learned from projects on site. Greg said he will look into this and provide input. Steve mentioned that he wants to tie into the FDH database, and Tom Anderson said that would be fine.

The facilitator asked the members to make a commitment to take these lessons learned back to their organizations to implement on other projects.

WRAP-UP

The next meeting will be held on July 16 starting at 8:30 a.m. in the EESB Snoqualmie Room. The participants were asked to please fill out their evaluation forms to keep the meetings going in the right direction. Steve Pulsford mentioned the C-Reactor open house in August; an agenda and schedule will be available next month.

ACTION ITEMS

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- Include details of vendor contact presentation in minutes (facilitation team).

- Bring list of ITRC documents and some copies for the next Management Council meeting (Nancy Uziemblo).

- Document possible solutions to the identified barriers (C-Reactor team).

- Convey lessons learned on C-Reactor Interim Safe Storage Project to Site-wide Systems Engineering Group (C-Reactor team).

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